

PROPOSED AMENDED RULE 1111 WORKING GROUP #2

SOUTH COAST AQMD
JULY 9, 2020

Zoom Meeting:

<https://scaqmd.zoom.us/j/92670149923?pwd=NEhNM2M3NzIzTEZrdVV5aEtvSndzQT09>

Meeting ID: 926 7014 9923

Password: 717425

Conference Call: 1 (669) 900-6833

AGENDA

- June 2020 Stationary Source Committee
 - Meeting Summary
 - Committee and Stakeholder Comments
- Upcoming Compliance Deadlines and Recommendations for:
 - High Altitude Furnaces
 - Weatherized Furnaces
 - Dual Fuel Systems
- Next Steps

JUNE 20, 2020 STATIONARY SOURCE COMMITTEE MEETING SUMMARY

- ❑ Staff presented an overview of Rule 1111 implementation status
- ❑ Additional topics presented include:
 - Impacts of COVID-19 on development and production
 - Total condensing and non-condensing models available from all seven furnace manufacturers
 - Status of the *CLEANair* consumer furnace rebate program
 - Development progress of high altitude and weatherized furnaces
 - Assessment on all potential heating system configurations

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JUNE 20, 2020 STATIONARY SOURCE COMMITTEE MEETING SUMMARY OF COMMITTEE MEMBER COMMENTS

- ❑ Stationary Source Committee commented on
 - Dual fuel systems with noncompliant 40 ng/J NO_x furnaces
 - Possibility of a third party study of dual fuel systems
 - Emission differences of with dual fuel systems with noncompliant 40 ng/J NO_x furnace
 - Enforcement concerns surrounding dual fuel systems with noncompliant 40 ng/J NO_x furnaces
 - Price difference between dual fuel systems with noncompliant 40 ng/J NO_x furnaces
 - Mixed comments regarding support and not supporting use of noncompliant 40 ng/J NO_x furnace in dual fuel systems
 - Support time extension for high altitude furnaces
 - Incentives for 14 ng/J NO_x dual fuel systems
 - Potential sell-through provision on weatherized furnaces
 - Requested Staff to return to Stationary Source Committee in August to present results

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JUNE 20, 2020 STATIONARY SOURCE COMMITTEE MEETING SUMMARY OF STAKEHOLDER COMMENTS

□ Stakeholders commented on

- Manufacturers have not provided guidance for use of compliant 14 ng/J NOx furnaces at high altitudes
- Extension of weatherized furnaces should be extended from April to September 30, 2021 to avoid conflicts with the start of cooling season
- Dual fuel systems
 - Allowing dual fuel systems with noncompliant 40 ng/J NOx furnaces undercuts existing dual fuel systems with 14 ng/J NOx furnaces
 - Dual fuel systems with noncompliant 40 ng/J NOx furnaces as an alternative compliance option for Rule 1111 provides greater consumer choice and potentially more emission reductions than standalone 14 ng/J NOx furnace
 - Enforcement challenges of allowing dual fuel systems with noncompliant 40 ng/J NOx furnaces

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COMPLIANCE DEADLINES

Condensing and Non-Condensing
Furnaces

October 1, 2019



Weatherized Furnaces

October 1, 2020

Upcoming
Deadlines

High Altitude Installations
(≥4,200 feet)

October 1, 2020

Mobile Home Furnaces

October 1, 2021

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WEATHERIZED FURNACES SEPARATION OF EQUIPMENT CATEGORY

- ❑ Mitigation fee period for weatherized furnaces ends September 30, 2020
- ❑ For most manufacturers, development of commercial and residential weatherized furnaces are separate from one another
 - Rule 1111 does not differentiate between residential and commercial weatherized furnaces
- ❑ Staff has reached out to all furnace manufacturers and discussed potential options to bifurcate the weatherized furnace category
- ❑ Staff discussed two categories based on single and three phase weatherized furnaces
 - Some manufacturers supported this split based on single and three phase
 - Other manufacturers felt it was not representative of their manufacturing and distribution for residential versus commercial
- ❑ **Staff is recommending to not separate implementation of weatherized furnaces** 7

COMMERCIALIZATION STATUS OF WEATHERIZED FURNACES AND RECOMMENDATIONS

- ❑ Commercialization of weatherized furnaces as of June 2020:



Recommendation:

- ❑ Extend mitigation fee period for weatherized furnaces to September 30, 2021
 - No sell through, extension of the mitigation fee allows manufacturers and distributors to sell 40 ng/J NOx units up to September 30, 2021
- ❑ Add consumer rebate of \$500 per unit for compliant weatherized units that will expire on September 30, 2021
 - Encourages commercialization of 14 ng/J NOx furnaces

HIGH ALTITUDE FURNACES DEVELOPMENT STATUS AND RECOMMENDATION

- ❑ High altitude condensing and non-condensing furnaces
 - Two manufacturers currently have units certified for installation above 7,000 feet
 - One manufacturer is on track to certifying units for installation of at least 7,000 feet by October 1, 2020
- ❑ High altitude weatherized furnaces
 - One manufacturer is on track to certifying weatherized furnaces for installations above 7,000 feet by October 1, 2020

Recommendations:

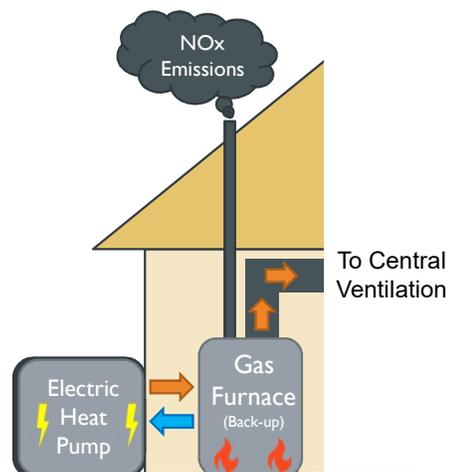
- ❑ Extend end date of high altitude exemption from October 1, 2020 to until September 30, 2021 for condensing and non-condensing furnaces
- ❑ Compliance date for weatherized furnaces is being extended to September 30, 2021
- ❑ Add consumer rebate of \$500 per unit for any compliant units installed in high altitude areas (above 4,200 feet) that will expire on September 30, 2021

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DUAL FUEL HEATING SYSTEMS OVERVIEW

- Dual fuel heating system is a natural gas furnace paired with an electric heat pump
- Electric heat pump replaces air conditioning unit

Primary heating is provided by the electric heat pump



- Gas-fired furnace is used as auxiliary heating when temperatures are very low
- Furnace operation is determined by an adjustable switchover temperature

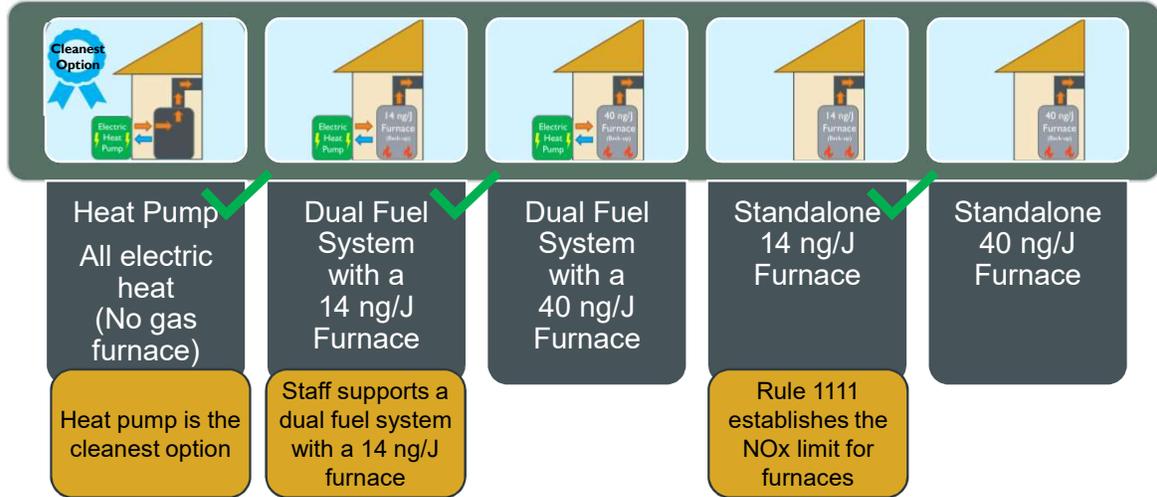


Switchover Temperature

Higher the switchover set temperature, more often furnace operates and more emissions

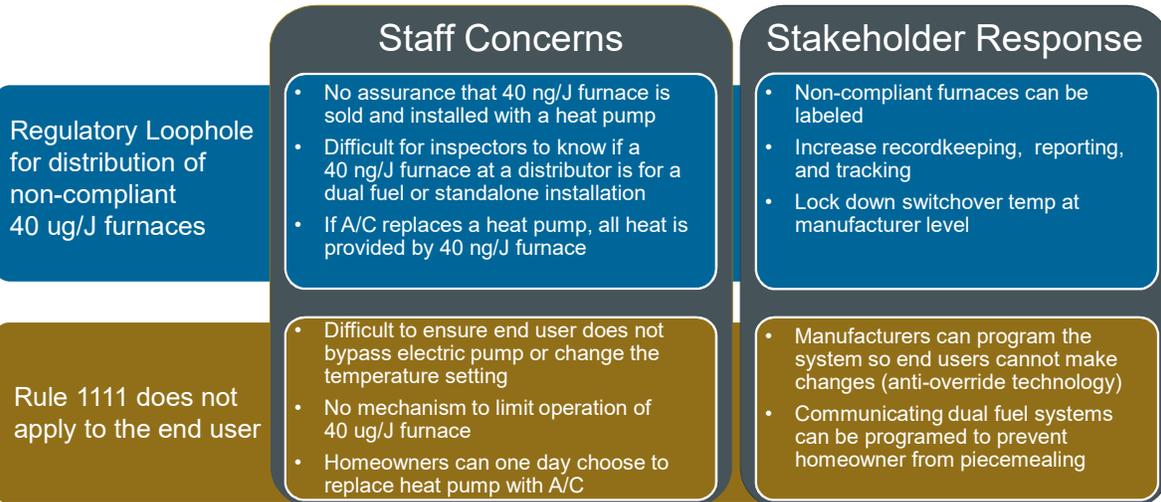
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AVAILABLE OPTIONS FOR HOME HEATING SYSTEMS



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ENFORCEMENT CONCERNS



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SUMMARY OF DISCUSSION ON DUAL FUEL SYSTEMS

- Staff recognizes that dual fuel systems have potential to generate lower NO_x than a standalone 14 ng/J NO_x furnace, if designed properly
 - Staff continues to work with stakeholders to explore potential options to eliminate enforcement concerns
 - Manufacturers have worked over the past decade to commercialize 14 ng/J NO_x furnaces
 - Staff acknowledges that weatherized furnaces may not have the same enforcement challenges as split systems
- Staff has reached out to furnace OEMs for equipment costs relating to dual fuel split systems, standalone furnaces, and heat pump heating systems that are utilizing a compliant 14 ng/J NO_x furnace and noncompliant 40 ng/J NO_x furnace

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SUMMARY OF RECOMMENDATIONS

Equipment Category	Implementation Date	Dual Fuel Split with 40 ng/J NO _x Furnace	Rebate
Condensing and Non-condensing Furnaces	October 1, 2019	No	\$500 rebate for dual fuel with condensing or non-condensing 14 ng/J furnace
Weatherized Furnaces	Extend mitigation fee period from September 30, 2020 to September 30, 2021	<ul style="list-style-type: none"> • Yes, up to September 30, 2021 • Staff will reassess use after September 30, 2021 	\$500 rebate for weatherized 14 ng/J furnaces until October 1, 2021
High Altitude Furnaces	Extend compliance date from October 1, 2020 to September 30, 2021	Yes*	\$500 rebate for installation of 14 ng/J furnaces above 4,200 feet until September 30, 2021

*Provided that furnace manufacturers implement measures to ensure proper operation.

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NEXT STEPS

- ❑ Amendments to Rule 1111 are needed by the September Board meeting to address October 1, 2020 compliance date for high altitude and weatherized furnaces
- ❑ Staff is reaching out to all seven furnace manufacturers to:
 - Obtain additional cost information for:
 - 14 ng/J NOx Furnace Systems (Standalone and Dual Fuel)
 - 40 ng/J NOx Furnace Systems (Standalone and Dual Fuel)
 - Heat pump system
 - Discuss how manufacturers can ensure non-compliant 40 ng/J furnaces are not sold and operated as a standalone furnace
- ❑ Return to Stationary Source Committee in August to present findings
- ❑ Public Workshop scheduled for July 15, 2020 and Public Hearing in September 2020

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